

TOP SECRET**PRIORITY**
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1965 JUL 6 16 35Z

PRIORITY INFO CITE 4886

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IT IS REQUESTED THAT AND ASSOCIATES BE PREPARED TO DISCUSS THE PROBLEMS CONCERNED WITH POSITION DETERMINATION AND COVARIANCE OF POSITION AS INDICATED BELOW:

A. POSITION DETERMINATION; A MEANS MUST BE PROVIDED FOR DETERMINING THE ORBITAL POSITION OF THE CAMERA AT ANY INSTANT OF TIME DURING AN EVENT TO THE DEGREE OF PRECISION INDICATED BY THE POSITION COVARIANCE MATRIX. AN EVENT WILL BE DEFINED AS COMMENCING WHEN THE FILM STARTS PASSING THE CAMERA SLIT, I.E., AN EVENT WOULD ENCOMPASS THE TIME PERIOD OF EXPOSURE OF A SINGLE STRIP PHOTOGRAPH. A SUGGESTED MEANS FOR DETERMINING POSITION WOULD BE TO BE PROVIDED WITH THREE OR MORE POSITIONS AT FINITE TIMES (E.G., BEGINNING, MIDDLE, AND END) DURING AN EVENT, THE POSITION AT ANY TIME WITHIN THE EVENT THEN BEING COMPUTED USING SECOND ORDER INTERPOLATION. IF PRECISION CAN BE MAINTAINED, THE THREE (OR MORE) POSITIONS MIGHT BE SPACED OVER THE TWO EVENTS COMPRISING A STEREO OPERATION. IN NO CASE SHOULD THE POSITIONS FROM WHICH INTERMEDIATE POSITIONS ARE TO BE IN-

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TOP SECRET

TERPOLATED BRACKET A COLD ORBIT ADJUST. IT WOULD BE DESIRABLE THAT THE CAMERA POSITIONS BE GIVEN IN THE FORM OF GEOCENTRIC EARTH FIXED CARTESIAN COORDINATES (Z THROUGH THE POLE, X THROUGH THE GREENWICH MERIDIAN).

B. COVARIANCE OF POSITION; A MEANS MUST BE PROVIDED FOR DETERMINING THE COVARIANCE OF THE ORBITAL POSITION OF THE CAMERA AT ANY INSTANT OF TIME. IF THE COVARIANCE MATRIX DOES NOT CHANGE SIGNIFICANTLY DURING AN EVENT, THE PROVISION OF A SINGLE COVARIANCE MATRIX FOR EACH EVENT SHOULD BE ADEQUATE. IF CORRELATION EXISTS BETWEEN TIMES WITHIN AN EVENT, A MEANS SHOULD BE PROVIDED FOR DETERMINING THE FULL COVARIANCE MATRIX BETWEEN ANY TWO TIMES WITHIN AN EVENT. AGAIN, IT WOULD BE DESIREABLE THAT THE COVARIANCE MATRIX BE GIVEN IN THE GEOCENTRIC EARTH FIXED COORDINATE SYSTEM.

T O P S E C R E T

-END OF MESSAGE-